

Booster Seats

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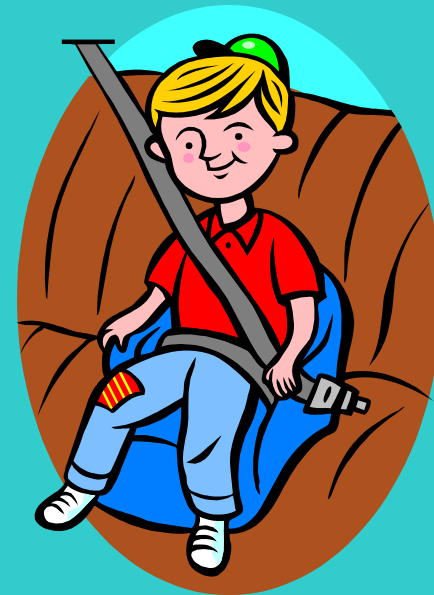
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Booster

- A positioning device that raises a child so the vehicle seat belt is more compatible with a child's body.



Seatbelts

- The shoulder belt is designed to load the upper chest, preventing rotation and limiting forward movement.
- The lap belt loads the pelvis and controls the lower body. It is what keeps the occupant in the vehicle

Children

- Kids bodies are unable to sustain the crash load.
- Injuries occur from improper belt fit
- Booster seats improve the pre-crash position of the lap belt and the angle of the pelvis

Types of Booster

- Belt positioning
 - backless
 - high back
- Shield (no longer on the market)

Is one Safer?



- Both provide crash protection
- Both lift the child up so the lap and shoulder belt fit correctly

Backless vs. Highback

- **Backless:**
 - + children view backless boosters as “more grown up” and are more apt to use for longer
 - + they utilize the vehicle seat back, providing a vertical shift in the child’s position
 - + Lower cost
 - + more compact size
 - shoulder belt guides are difficult to use, non-existent or easily lost

Backless vs. Highback Cont.

- **Highback:**
 - + Highbacks offer varying degrees of rear-impact head protection
 - + Built in shoulder belt guides provide better positioning
 - + Adjustable headrests with side wings allow sleeping children to sit upright and thusly provide proper shoulder belt fit
 - child is shifted vertically and forward to the vehicle seat.

The verdict

Highback boosters may improve
shoulder belt fit

- Side wings may have benefits
in side impact crashes

Backless boosters may reduce
forward excursion

- Lack of head protection in rear
impact crashes



Booster Seat Effectiveness

Booster seats lower the risk of injury in crashes by 59%
(compared to the use of seat belts alone)

Common injuries with no booster seat

- 44% to the head
- 18% lower extremities
- 17% chest
- 12% pelvis/abdomen

Arizona Usage Rates

Unsecured Boosters

- **All manufacturers include warnings in the manuals cautioning against unused boosters**
 - should be secured or removed
- NHTSA doesn't keep data of booster seats causing injury
- At least 2 cases have received national publicity

Boosters and LATCH:

PRO

- Assured the booster is attached to the vehicle – no loose object
- Seat maintains position when in a collision
- Seat doesn't shift when child climbs in and out of seat

CONS

- LATCH weight limits vary
- Inconsistency in manufacturers' recommendations

Boosters that allow LATCH

Boosters:

- Jane: Indy Plus and Team Plus
- Recaro: Start
- Clek: Ollie – rigid lower attachments
- Sunshine Kids: Monterey – flexible lower attachments

Combos:

- Evenflo: top tether can be used on combo's used as boosters
- Graco: tether allowed on some models (see manual)
- Airway: allow use of LATCH system in booster mode
- Recaro: use of tether recommended

Booster seat Trivia

FACT or FICTION??



Booster seat Trivia

High back belt positioning booster seats that convert to a backless belt positioning booster will have the same expiration date?



Credits:

**Tomi St Mars
Safe Ride News
CPS Express**



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